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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/725,234 | 11/29/2000 | Ryuichi Ishii | 016887/1027 | 8228 |

22428 7590 01/14/2003

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EXAMINER

IP, SIKYIN

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 01/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 10/21/02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 21-37 is/are pending in the application.
- ☐ Of the above claim(s) is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 21-37 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 21-26 are indefinite because the expression "consisting essentially of" is found inconsistent with "bainite single phase." The expression "consisting essentially of" would allow phases other than bainite phase in the alloy. Therefore, it is unclear that the claimed alloy is limited to only bainite phase - single phase.
3. Claim 25 is indefinite because there are two Ti ranges in said claim.

Claim Rejections - 35 USC § 103

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 21-29, 31-33, and 35-37 are rejected under 35 U.S.C. 103(a) as obvious over USP 5458703 to Nakai (col. 2, lines 35-51), JP 08193240, or USP 5972129 to Beguinot et al (col. 3, lines 13-65).

7. Claims 23, 27, and 37 are rejected under 35 U.S.C. 103(a) as obvious over JP 8246096 (PTO-1449, abstract).

8. The cited references disclose the features substantially as claimed. The disclosed features include the claimed Fe based alloy compositions. The features relied upon described above can be found in the references at their abstracts. As is evinced by Beguinot in col. 3, lines 46-49 that the alloy steel has at least 30% of bainite phase. The difference between the reference(s) and the claims are as follows: with respect to claims 29 and 33, that the cited references do not explicitly disclose the claimed heat treatment steps. But, the invention defined in a product-by-process claim is a product, not a process. In re Bridgeford, 357 F. 2d 679, 149 USPQ 55 (CCPA 1966). It is the patentability of the product claimed and not of the recited process steps which must be established. See In re Brown, 459 F. 2d 531, 173 USPQ 685 (CCPA 1972) and In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

9. The claimed 0.2 (exclusive) wt.% C is no difference from 0.2 wt.% as disclosed by cited references because a prima facie case of obviousness would exist where the claimed ranges and prior art do not overlap but are close enough that one ordinary

skilled in the art would have expected them to have the same properties, In re Titanium Metals Corporation of America v. Banner, 227 USPQ 773 (Fed. Cir. 1985), In re Woodruff, 16 USPQ 2d 1934, and In re Aller, 105 USPQ 233.

10. Claims 30 and ^{30 or 41}34 are rejected under 35 U.S.C. 103(a) as being unpatentable over references as applied to claims above, and further in view of JP 09041076 (PTO-1449, A2) or by JP 09041076 alone.

11. The claimed subject matter as is disclosed and rejected above by the cited reference(s) except for use of the alloy steel for steam turbine rotor. However, JP 09041076 in the abstract teaches making steam turbine rotor with high strength and high toughness low alloy steel with known compositions as cited in the above said references. Therefore, it is contemplated within ambit of ordinary skill artisan to substitute the alloy steel of JP 09041076 with alloy steels having same or better high temperature creep strength. The use of conventional materials to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).

12. Moreover, ordinary skill artisan would recognize the alloy steel of JP 09041076 would be contaminated with N because ambient atmosphere contains N which would diffuse into molten metal as cast.

Response to Arguments

13. Applicant's arguments filed October 21, 2002 have been fully considered but they are not persuasive.
14. Applicants' argument in page 8, second full paragraph is noted. But, the instant expression "consisting essentially of" allows other phases. As is evinced by Beguinot in col. 3, lines 46-49, that the alloy steels of cited references are known to have bainite phase.
15. Applicants argue that the alloy steel composition ranges of Nakai is too broad. But, the applicants do not show the claimed ranges are critical. Therefore, the claimed composition is still obvious.
16. Applicants argue that the alloy steel of Nakai contains optional Al. But, optional Al means said Al element could be eliminated.
17. Applicants argue that cited alloy steels of references contain Al but Al element is merely an optional element in cited references.
18. Applicants argue that examples in Table 1 of JP '240 contain Al. However, it is well settled that the examples of the cited reference are given by way of illustration and not by way of limitation. In re Boe, 148 USPQ 507 (CCPA 1966) and In re Snow, 176 USPQ 328.
19. Applicants' argument in page 10, first full paragraph of the remark is noted. But, those elements are optional elements.

20. Applicants' argument with respect to Beguinot is noted. But, items 14-19 above are still applied.

21. Applicants' argument with respect to JP '096 is noted. But, the claims rejected by said reference do not contain Mo. The instant claimed greater than 0.2% C is found not difference than 0.2 wt.% since there is no factual evidence that greater than 0.2 wt.% C would produce unexpected result. It is well settled that a prima facie case of obviousness would exist where the claimed ranges and prior art do not overlap but are close enough that one ordinary skilled in the art would have expected them to have the same properties, *In re Titanium Metals Corporation of America v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *In re Woodruff*, 16 USPQ 2d 1934, *In re Hoch*, 428 F.2d 1341, 166 USPQ 406 (CCPA 1970), and *In re Payne* 606 F.2d 303, 203 USPQ 245 (CCPA 1979). To overcome the prima facie case, an applicant must show that there are substantial, actual differences between the properties of the claimed compound and the prior art compound. *Hoch*, 428 F.2d at 1343-44, 166 USPQ at 409. The instant transitional expression "consisting essentially of" do not limit claims to only bainite phase.

22. Applicants' argument in page 12, first full paragraph is noted. However, unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification is not sufficient. *In re Geisler*, 116 F.3d at 1470. Comparison must be done under identical condition except for the novel

features of the invention. In re Brown, 173 USPQ 685 and In re Chapman, 148 USPQ 711. The showing of unexpected results must be occurred over the entire claimed range. In re Clemens, 622 F.2d 1029, 206 USPQ 289, 296 (CCPA 1980). The scope of the showing must be commensurate with the scope of the claims. In re Tiffin, 448 F.2d 791, 792 (Fed. Cir. 1971), In re Coleman, 205 USPQ 1172, and In re Greenfield, 197 USPQ 227.

23. Applicants argue that the claimed greater than 0.05 wt.% Si is different from less than 0.05 wt.% Si as disclosed by JP '076. But, applicants fail to provide factual evidence that the claimed greater than 0.05 wt.% Si is critical. See also response in item 21 above.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments

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made to the disclosure. See MPEP § 2163.06 (a) and 37 C.F.R. § 1.119.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (703) 308-2542. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (703)-308-1146.

The facsimile phone number for this Art Unit 1742 are (703) 305-3601 (Official Paper only) and (703) 305-7719 (Unofficial Paper only). When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.



SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
January 13, 2003